	Type	L #	Hits	Search Text	DBs
1	BRS	L1	12394	glucose near8 determin$8	US-PGPUB; USPAT
2	BRS	L2	2598	1 and electrode	US-PGPUB; USPAT
3	BRS	L3	646	1 and electrode with insulat$9	US-PGPUB; USPAT
4	BRS	L4	118	1 and electrode with insulat$9 with (specimen or sample)	US-PGPUB; USPAT
5	BRS	L5	5	4 and modulat$9 near8 voltage	US-PGPUB; USPAT
6	BRS	L6	19	4 and var$9 near8 voltage	US-PGPUB; USPAT
7	BRS	L7	31	("20020155615"|"20040104736"|"20040133353"|"20040147819"|"20040240512"|"20050101842"|"20050113662"|"4445885"|"4509531"|"4679426"|"4765179"|"4875486"|"4965206"|"5050612"|"5077476"|"5109855"|"5353802"|"5508203"|"5771891"|"5792668"|"5804967"|"5890489"|"6028433"|"6182504"|"6309884"|"6320393"|"6356776"|"6517482"|"6565509"|"6723048"|"6954662").PN.	US-PGPUB; USPAT

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	1184	impedance near8 spectroscop$9	US-PGPUB; USPAT
2	BRS	L3	72	1 and glucose near8 concentration	US-PGPUB; USPAT
3	BRS	L4	62	3 and electrode	US-PGPUB; USPAT
4	BRS	L6	12	5 and modulat$9 with voltage	US-PGPUB; USPAT
5	BRS	L5	117	2 and electrode	US-PGPUB; USPAT
6	BRS	L2	142	1 and glucose	US-PGPUB; USPAT

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	1235	electrochemical near8 (sensor or detector) same glucose	US-PGPUB; USPAT
2	BRS	L2	1117	1 and electrode	US-PGPUB; USPAT
3	BRS	L3	19	2 and modulat$9 near8 voltage	US-PGPUB; USPAT

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NEWS 4	DEC 18	CA/CAplus patent kind codes updated
NEWS 5	DEC 18	MARPAT to CA/CAplus accession number crossover limit increased to 50,000
NEWS 6	DEC 18	MEDLINE updated in preparation for 2007 reload
NEWS 7	DEC 27	CA/CAplus enhanced with more pre-1907 records
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NEWS 13	JAN 22	CA/CAplus enhanced with patent applications from India
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NEWS 18	FEB 23	KOREAPAT enhanced with IPC 8 features and functionality
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NEWS 20	FEB 26	EMBASE enhanced with Clinical Trial Number field
NEWS 21	FEB 26	TOXCENTER enhanced with reloaded MEDLINE
NEWS 22	FEB 26	IFICDB/IFIPAT/IFIUDB reloaded with enhancements
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NEWS 24	MAR 15	WPIDS/WPIX enhanced with new FRAGHITSTR display format
NEWS 25	MAR 16	CASREACT coverage extended
NEWS 26	MAR 20	MARPAT now updated daily
NEWS 27	MAR 22	LWPI reloaded

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L1 26959 IMPEDANCE (8W) SPECTROSCOP?

=> s l1 and glucose (8w) determ?
L2 9 L1 AND GLUCOSE (8W) DETERM?

=> display l2 1-9 ibib abs

L2 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1111866 CAPLUS
DOCUMENT NUMBER: 146:57819
TITLE: A novel method for glucose determination based on electrochemical impedance spectroscopy using glucose oxidase self-assembled biosensor
AUTHOR(S): Shervedani, Reza Karimi; Mehrjardi, Abdolhamid Hatefi; Zamiri, Najmehsadat
CORPORATE SOURCE: Chemistry Department, University of Isfahan, Esfahan, 81746-73441, Iran
SOURCE: Bioelectrochemistry (2006), 69(2), 201-208
CODEN: BIOEFK; ISSN: 1567-5394
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method is developed for quant. determination of glucose using electrochem. impedance spectroscopy (EIS). The method is based on immobilized glucose oxidase (GOx) on the topside of gold mercaptopropionic acid self-assembled monolayers (Au-MPA-GOx SAMs) electrode and mediation of electron transfer by parabenzoquinone (PBQ). The PBQ is reduced to hydroquinone (H2Q), which in turn is oxidized at Au electrode in diffusion layer. An increase in the glucose concentration results in an increase in the diffusion c.d. of the H2Q oxidation, which corresponds to a decrease in the faradaic charge transfer resistance (Rct) obtained from the EIS measurements. Glucose is quantified from linear variation of the sensor response (1/Rct) as a function of glucose concentration in solution The method is straightforward and nondestructive. The dynamic range for determination of glucose is extended to more than 2 orders of magnitude. A detection limit of 15.6 μM with a sensitivity of 9.66 + 10-7 Ω-1 mM-1 is

obtained.
REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:888900 CAPLUS
DOCUMENT NUMBER: 143:225496
TITLE: Non-invasive method and apparatus for determining a physiological parameter
INVENTOR(S): Bryenton, Alan; Batkin, Izmail
PATENT ASSIGNEE(S): Biopeak Corporation, Can.
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2005077260	A1	20050825	WO 2005-CA147		20050209
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
CA 2555807	A1	20050825	CA 2005-2555807		20050209
PRIORITY APPLN. INFO.:			US 2004-543689P	P	20040212
			WO 2005-CA147	W	20050209

AB The present invention relates to an apparatus and method for the non-invasive anal. of physiol. attributes, such as heart rate, blood pressure, cardiac output, respiratory response, body composition, and blood chemical analytes including glucose, lactate, Hb, and oxygen saturation Using a combination of multi-functioning disparate sensors, such as optical and elec., improvements are made over existing physiol. measurement devices and techniques. The special configuration of one or more multi-functional sensors is used to non-invasively measure multi-wavelength optical plus one or more of ECG, Bio-impedance, and RF-impedance spectroscopic data. This information is used to develop self-consistent, non-linear algorithm in order to derive the physiol. attributes while compensating for various forms of interfering effects including motion artifacts, sensor attachment variability, device component variability, subject phys. and physiol. variability, and various interfering physiol. attributes.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:220558 CAPLUS
DOCUMENT NUMBER: 140:263214
TITLE: Impedance spectroscopy based systems and methods
INVENTOR(S): Caduff, Andreas; Hirt, Etienne; Schrepfer, Thomas W.
PATENT ASSIGNEE(S): Pendragon Medical Ltd., Switz.
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004023125	A2	20040318	WO 2003-IB4438	20030905
WO 2004023125	A3	20040701		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AT 345732	T	20061215	AT 2001-914075		20010306
AU 2003264797	A1	20040329	AU 2003-264797		20030905
PRIORITY APPLN. INFO.:			US 2002-408377P	P	20020905
			EP 2001-914075	A	20010306
			WO 2003-IB4438	W	20030905

AB One aspect of the invention provides a device that noninvasively dets. the concentration of a substance in a target. The device includes a 1st electrode, a measuring circuit, and a data processor. In one embodiment of the device, the 1st electrode can be elec. insulated from the target, e.g., a cover layer of insulating material covers the 1st electrode.

L2 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:181874 CAPLUS
DOCUMENT NUMBER: 140:213554
TITLE: Method of determining a haematocrit corrected glucose concentration in whole blood samples wherein the haematocrit concentration is measured by impedance spectroscopy
INVENTOR(S): Vreeke, Mark S.; Genshaw, Marvin A.; Melle, Bryan S.
PATENT ASSIGNEE(S): Bayer Healthcare, LLC, USA
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1394545	A1	20040303	EP 2003-18656	20030821

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

AU 2003234944	A1	20040318	AU 2003-234944		20030813
CA 2437249	A1	20040227	CA 2003-2437249		20030814
US 2004079652	A1	20040429	US 2003-645785		20030822
JP 2004163411	A	20040610	JP 2003-300826		20030826
PRIORITY APPLN. INFO.:			US 2002-406066P	P	20020827

AB Method of determining the glucose concentration in a whole blood sample by providing an electrochem. sensor adapted to measure glucose and hematocrit concns. The hematocrit concentration of the whole blood sample is measured using the electrochem. sensor via electrochem. impedance spectroscopy. The initial glucose concentration of the whole blood sample is measured using the electrochem. sensor. The unbiased glucose concentration in the whole blood sample is calculated using the initial glucose concentration measurement and the hematocrit concentration

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:66608 CAPLUS
DOCUMENT NUMBER: 141:53036
TITLE: Potentiometric biosensor for glucose determination based on a SnO2 redox electrode
AUTHOR(S): Kormos, Fiammetta; Tarsiche, Irina; Vegh, Peter
CORPORATE SOURCE: Inst. de Cercetari Chim "Ralucan Ripan", Cluj Napoka, 3400, Rom.
SOURCE: Revista de Chimie (Bucharest, Romania) (2003), 54(12), 946-949
CODEN: RCBUAU; ISSN: 0034-7752
PUBLISHER: SYSCOM 18 SRL
DOCUMENT TYPE: Journal
LANGUAGE: Romanian
AB A glucose biosensor based on a SnO2 redox electrode includes a cellulose acetate membrane and immobilized glucose oxidase and peroxidase. The optimum conditions for obtaining the SnO2 film and enzyme immobilization were established using several measurement techniques: elec. resistance at four points, impedance spectroscopy, direct potentiometry, and cyclic voltammetry. The functional characteristics of the biosensor were tested by direct potentiometry. The biosensor was used for the determination of glucose in meat. Results were compared with those obtained by the Bertrand method.

L2 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:571175 CAPLUS
DOCUMENT NUMBER: 139:110751
TITLE: Method and apparatus for processing electrochemical signals
INVENTOR(S): Iyengar, Sridhar G.; Haas, Daniel; Bolon, Craig
PATENT ASSIGNEE(S): Agamatrix, Inc., USA
SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003060154	A2	20030724	WO 2003-US1113	20030115
WO 2003060154	A3	20040805		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2472584	A1	20030724	CA 2003-2472584	20030115
AU 2003203004	A1	20030730	AU 2003-203004	20030115
US 2003178322	A1	20030925	US 2003-342794	20030115
US 7090764	B2	20060815		
EP 1466008	A2	20041013	EP 2003-702120	20030115
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1615434	A	20050511	CN 2003-802181	20030115
JP 2005515413	T	20050526	JP 2003-560236	20030115

IN 2004KN00939 A 20060505 IN 2004-KN939 20040705
PRIORITY APPLN. INFO.: US 2002-350175P P 20020115
WO 2003-US1113 W 20030115

AB Systems and methods are provided herein for improving the selectivity and productivity of sensors via digital signal processing techniques. According to one illustrative embodiment, in an electrochem. method for monitoring of a select analyte in a mixed sample with an interfering analyte, an improvement is provided that includes applying a large amplitude potential stimulus waveform to the sample to generate a nonlinear current signal; and resolving a signal contribution from the select analyte in the generated signal by a vector projection method with an analyte vector comprising a plurality of real and imaginary parts of one or more Fourier coeffs. at one or more frequencies of a reference current signal for the select analyte.

L2 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:43798 CAPLUS
DOCUMENT NUMBER: 130:107039
TITLE: Frequency domain selection of the peroxide signal for amperometric biosensors
AUTHOR(S): Iyengar, Sridhar; Hall, Elizabeth A. H.; Skinner, Nigel G.; Gooding, J. Justin
CORPORATE SOURCE: Institute Biotechnology, University Cambridge, Cambridge, CB2 1QT, UK
SOURCE: Electroanalysis (1998), 10(16), 1089-1095
CODEN: ELANEU; ISSN: 1040-0397
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The amperometric biosensor has become a convenient anal. device concept since the biorecognition element can be highly specific to the analyte of interest when coupled to the appropriate transducer. However, a shortcoming of this system is that the transducer alone is not necessarily specific to the analyte, but only in conjunction with the recognition element. The role of impedance spectroscopy is examined as a technique to probe overlapping electrochem. signals by separation in the frequency domain. Hydrogen peroxide is examined as a model to test the feasibility of extraction of quant. data in this control mode, and exptl. conditions are determined where anal. data may be obtained to extract the peroxide signal from other electrochem. information in an polyaniline-glucose oxidase enzyme biosensor based on peroxide detn.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:545394 CAPLUS
DOCUMENT NUMBER: 129:133378
TITLE: Radio frequency spectral analysis for in-vitro or in-vivo environments
INVENTOR(S): Fuller, Milton E.; Deamer, David W.; Iverson, Mark N.; Koshy, Ajit J.
PATENT ASSIGNEE(S): Solid State Farms, Inc., USA
SOURCE: U.S., 27 pp., Cont.-in-part of U. S. 5,508,203.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5792668	A	19980811	US 1996-631916	19960415
US 5508203	A	19960416	US 1993-103410	19930806

CA 2251919	A1	19971023	CA 1997-2251919	19970415
WO 9739341	A1	19971023	WO 1997-IB719	19970415
W: AU, CA, JP, KR, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9729748	A	19971107	AU 1997-29748	19970415
AU 731409	B2	20010329		

PRIORITY APPLN. INFO.: US 1993-103410 A2 19930806
US 1996-631916 A 19960415
WO 1997-IB719 W 19970415

AB Concentration of a target chemical in the presence of other substances in a specimen is determined by subjecting the specimen to radio frequency electromagnetic components, sequentially or otherwise, ranging to .apprx.5 GHz. The reflected and/or transmitted signal real and imaginary components at the specimen are spectrally examined as a function of frequency to identify the presence and/or concentration of the chemical of interest. Such examination includes anal. of the effective complex impedance presented by the specimen, and/or effective phase shift between the transmitted and reflected signal at the specimen. The effects upon glucose concentration measurements of varying electrolytes, primarily NaCl, can be nulled-out by examining impedance magnitude at a cross-over frequency, for example .apprx.2.5 GHz. NaCl concentration exhibits a very linear relation with phase shift change at frequencies in the 2 GHz-3 GHz range. In a specimen that is blood, such phase shift measurements provide data proportional to NaCl concentration Impedance magnitude measurements using 1 MHz to 400 MHz frequencies provides a measure of combined concentration of glucose and NaCl. The phase shift data may then be used to substrate out the NaCl concentration from the combined concentration, to yield a good measure of glucose concentration Such tests may be conducted in-vitro or in-vivo and lend themselves to blood level glucose analyses by diabetics.

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 9 OF 9 COMPENDEX COPYRIGHT 2007 EEI on STN

ACCESSION NUMBER: 2006(44):956 COMPENDEX

TITLE: A novel method for glucose determination based on electrochemical impedance spectroscopy using glucose oxidase self-assembled biosensor.

AUTHOR: Shervedani, Reza Karimi (Chemistry Department University of Isfahan, Isfahan, 81746-73441, Iran); Mehrjardi, Abdolhamid Hatefi; Zamiri, Najmehsadat

SOURCE: Bioelectrochemistry v 69 n 2 October 2006 2006.p 201-208

SOURCE: Bioelectrochemistry v 69 n 2 October 2006 2006.p 201-208
CODEN: BIOEFK ISSN: 1567-5394

PUBLICATION YEAR: 2006

DOCUMENT TYPE: Journal

TREATMENT CODE: Bibliography; Experimental

LANGUAGE: English

AN 2006(44):956 COMPENDEX

AB A method is developed for quantitative determination of glucose using electrochemical impedance spectroscopy (EIS). The method is based on immobilized glucose oxidase (GOx) on the topside of gold mercaptopropionic acid self-assembled monolayers (Au-MPA-GOx SAMs) electrode and mediation of electron transfer by parabenzoquinone (PBQ). The PBQ is reduced to hydroquinone (H2Q), which in turn is oxidized at Au electrode in diffusion layer. An increase in the glucose concentration results in an increase in the diffusion current density of the H2Q oxidation, which corresponds to a decrease in the faradaic charge transfer resistance (Rct) obtained from the EIS measurements. Glucose is quantified

from linear variation of the sensor response (1/Rct) as a function of glucose concentration in solution. The method is straightforward and nondestructive. The dynamic range for determination of glucose is extended to more than two orders of magnitude. A detection limit of 15.6 muM with a sensitivity of 9.66 * 10- 7 omega- 1 mM- 1 is obtained. 57 Refs.

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